DOCUMENT RESUME

ED 288 396 FL 017 036

AUTHOR Warner, Anthony R.
TITLE Ellipsis Conditions and the Status of the English Copula.
PUB DATE Nov 86
NOTE 21p.; In: York Papers in Linguistics No. 12, 1986; see FL 017 027.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Diachronic Linguistics; Dialects; *English; Foreign Countries; Language Usage; Linguistic Theory; *Morphology (Languages); *Phrase Structure; Semantics; Structural Analysis (Linguistics); *Tenses (Grammar); *Transformational Generative Grammar
IDENTIFIERS Auxiliary Verbs; *Copula (Grammar); *Ellipsis

ABSTRACT

A discussion of constraints on ellipsis after auxiliaries in English focuses on a particular analytic problem concerning nonfinite verb phrases using "be", which has a historical dimension. A solution involving the morphological claim about the copula and its incorporation of tense-distinctions is proposed and discussed in the context of Generalized Phrase Structure Grammar (GPSG). It is concluded that there is a synchronic and diachronic justification for a GPSG analysis of the tensed forms of the English copula as distinct from nonauxiliary verbs in two respects: (1) the semantics of their combination with tense is given lexically, and (2) they lack the morphology of verbal inflection. Advantages found in this analysis are that the copula is consistent with the behavior of the auxiliary "have" and that it deals naturally with the loss of the ellipsis construction with tensed antecedent found in earlier English. (MSE)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

S. Harlow

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED288396

ELLIPSIS CONDITIONS AND THE STATUS OF THE ENGLISH COPULA*

Anthony R Warner

(Department of Language and Linguistic Science)

1. The Problem

Constraints on ellipsis after auxiliaries set us a little-noticed and little-discussed puzzle with an important historical dimension. In this paper I want to present a solution involving a claim about the morphological classification of the copula and its incorporation of tense-distinctions. The framework is that of Generalized Phrase Structure Grammar, but much of the discussion will be untechnical and essential aspects of the solution should be transportable to other frameworks.

The puzzle is simply stated. What underlies the distinction between the types of 1 and 2?

(1)a. If John behaves well, then Mary probably will too (sc. behave well).

b. John seems well-behaved today, and he often has in the past too (sc. seemed well-behaved).

(2)a. *If John is well-behaved, then Mary probably will too (sc. be well-behaved).

b. *John is well-behaved today, and he often has in the past too (sc. been well-behaved).

In each a nonfinite VP must be supplied in ellipsis from a tensed antecedent. With verbs which are not auxiliaries, like behave and seem, this is unproblematic. But all speakers of Standard English seem to agree that with be the type is impossible.[1] A common reaction to it is incomprehension and a failure to recognise that the retrieval of a be-phrase is in question. Note that the retrieval of the complement of be in such cases, as in 3, is straigntforward, but that this is not the type under discussion here.

(3)a. If John is well-behaved, then Mary probably will be too (sc. well-behaved).

b. John is well-behaved today, and he often has been in the past too (sc. well-behaved).

It is clear that the form of the antecedent in 2 is crucially involved, for in cases with an identical

FL017036

York Papers in Linguistics 12 (1986) 153-172
© the author.

BEST COPY AVAILABLE

antecedent, as in 4, ellipsis of a be-phrase is often straightforward.

(4)a. John will be well-behaved, and Mary will too (sc. be well-behaved).

b. John has been well-behaved today, and he often has in the past too (sc. been well-behaved).

Thus the point here is that nonfinite be well-behaved, been well-behaved may not be retrieved from tensed is well-behaved, etc in sharp contrast to nonfinite behave well, behaved well which may be retrieved from a tensed antecedent.

Cases of ellipsis after a nonfinite antecedent pose a separate problem. If the antecedent and the form supplied are distinct in morphosyntactic category, then some speakers find retrieval impossible, though instances with identical categories are accepted.

(5)a. ?*Paula may be late this evening. She already has once this week (sc. been late).

b. ?*The children have been very good here. I wish they would at home (sc. be very good).

c. Paula may be late this evening. In fact I think she probably will (sc. be late).

d. The children have been very good here. I wish they had at home (sc. been very good).

Here be is again distinct from nonauxiliary verbs with which such retrieval is generally straightforward (see Warner 1985: 58f for some discussion). But some speakers I have questioned find a high proportion of instances like 5a,b acceptable, and even those who typically reject them accept some isolated cases. And they are occasionally to be found in English text. Thus this type looks like a distinct problem from that of 2 above which is never accepted by these speakers. I have discussed this type in Warner 1985 (see also Levin 1980, 1981 for further restrictions on the ellipsis of be), and here I would like to focus on the question posed by the impossibility of a finite antecedent.

There is an important historical dimension to this problem, for examples like 2 are found in earlier English. Instances to parallel 2a can be found throughout Middle English, and for Modern English until the end of the eighteenth century, cf Visser (1963-73: III First half: sections 1752ff). The last author to use such constructions that I know of is Jane Austen (cf Phillipps 1970). The type of 2b is less common but also appears.

(6)a. I think, added he, all the Charges attending it, and the Trouble you had, were defray'd by my Attorney: I order'd that they should [sc. be defrayed - ARW]. They were, Sir, said he; and Ten Thousand Thanks to you for this Goodness,... Samuel Richardson, 1740-1. Pamela, London: third edition 1741, vol 2 p129.

b. I wish our opinions were the same. But in time they will [sc. be the same - ARW]. Jane Austen, Emma. 1816. ed. by R.W. Chapman, Oxford: OUP 1923, p471 (cited from Phillipps 1970: 142).

The fact that closely related dialects of English differ in this respect is clearly of great importance. It is hard to believe that the striking solidity of the present-day rejection of the construction and the consequent sharpness of the contrast with earlier English is not based in some systematic grammatical facts. Grammatical prescription seems unlikely to be an adequate source for this contrast, even if the construction was ever the specific focus of prescription, and I know no evidence that it was. It is not mentioned in Leonard's survey (1962 cf especially VI.4). We have then an opportunity to uncover the parameters underlying this dialect difference. And to convince, any account of the absence of 2 in today's English must be supported by a plausible account of its loss.

Before turning to a particular proposal, I will make two more general points. The first is that the simple fact that the relationship between tensed is, etc and be is suppletive cannot be what accounts for the difference between 1 and 2. For one thing the relationship was suppletive in earlier English too when the type was permitted. For another, some speakers find ellipsis involving retrieval from suppletive instances natural, though reactions are rather variable. Thus Sag 1977 cited 7 as grammatical without comment despite the retrieval of go from suppletive went.

(7) Although John went to the store, Betsy didn't (sc. go to the store). Sag 1977: 8, (1.2.9a.)

It would clearly not be adequate to add a simple constraint against suppletion to the conditions required for instances with nonfinite antecedents as an account of the finite cases.

The second general point is that perfect have in ellipsis after a finite antecedent is not simply parallel to be with finite antecedent. Although examples are often rejected, there is not the sense of total impossibility found in 2, and instances where appropriate adverbials aid retrieval are sometimes relatively acceptable.

(8)a. ?*John has probably kissed his grandmother good night, but Paul won't yet (sc. have kissed his grandmother good night).

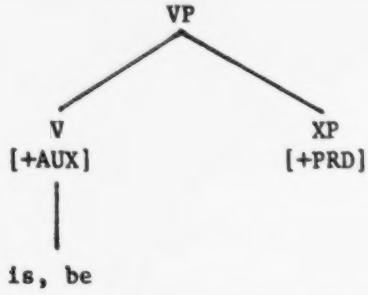
b. ?*Have you seen one yet? You should by now if they're really there (sc. have seen one).

As a group such instances are better classed with ellipsis of be after a nonfinite antecedent.

2. Assumptions of Analysis

The framework of analysis is that of Generalized Phrase Structure Grammar (GPSG) as presented in Gazdar, Klein, Pullum and Sag 1985 (GKPS). In what follows I will take for granted that predicative, 'progressive' and 'passive' be are to be identified as the same item, that it belongs to the word class 'verb' and subclass 'auxiliary', and that both finite and nonfinite instances occur in a structure like 9 where the predicate will carry further specification.

(9)



These positions are adequately defended in Gazdar, Pullum and Sag 1982, Warner 1985. Ellipsis of the predicate here, though often called 'Verb Phrase Deletion/Ellipsis' belongs to a class involving the complement of an auxiliary. 'Post-Auxiliary Ellipsis' is a better term. I will assume that such ellipses are the product of a metarule which specifies an empty complement whose meaning must be retrieved from the preceding linguistic context. In Warner 1985: 55, which generalises the treatment of Gazdar, Pullum and Sag 1982, the empty complement is XP[+NUL] where XP[+NUL] -> e. In the system of GKPS the complement will be XP[+NULL]/XP.[2]

Notice that though at first sight it might seem that the contrast between tensed and nonfinite be here points to a treatment in which is + predicate does not form a constituent, as in the popular analysis where there is a finite auxiliary position immediately dominated by S (cf Akmajian, Steele and Wasow 1979, and references), the fact that be and have differ in behaviour is against such a simple view.

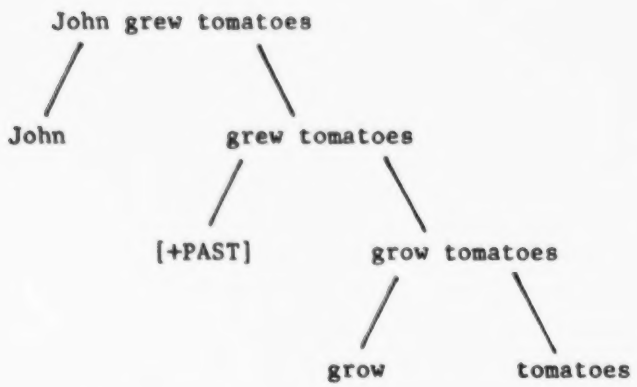
3. A Solution

I want to suggest that the tensed forms *am*, *are*, *is*, *was*, *were* (henceforth 'the *am*-forms') should be analysed in GPSG with tense incorporated as part of their basic meaning, stated in the lexicon. They differ from the majority of verbs for which the semantic interpretation of tense takes place at VP-level. This provides a straightforward account of the failure of ellipsis with the *am*-forms noted above, since with them an untensed VP-meaning is not available for retrieval.[3] This position is plausible from a morphological point of view since the *am*-forms entirely lack regular verbal inflection, a characteristic which they share with the majority of the class of modals. Moreover the position is historically plausible since the loss of the ellipsis type discussed above is coeval with the loss of characteristics shared by modals, the *am*-forms and nonauxiliary verbs. In what follows I will deal in turn with each of these topics.

3.1 A Semantic Analysis

Carlson 1983 points out that it is often the case that grammatical formatives appear, or grammatical oppositions are made overt, at a lower position in constituent structure than is appropriate for their semantic interpretation. Thus the morphological contrast of English tense appears within a verb, but the semantic scope of tense is at least VP (and perhaps also S, cf Janssen 1983). GKPS cope with this general phenomenon by assigning a translation to particular feature values (terming the features 'semantical') and ensuring that interpretation is operative at the feature's highest point of occurrence in a tree in cases where a feature percolates across different levels of structure (p223ff). For English tense they argue from coordination facts that this should be at VP level, and they assign their feature-value pair [+PAST] the interpretation PAST' and the model theoretic type <VP,VP>. Note that GKPS use syntactic category labels to denote the corresponding model theoretic type and I will also use this convention. This means that a PTQ-type semantic analysis tree for *John grew tomatoes* is as in 10.

(10)



In GKPS semantic interpretation applies to syntactic trees, not to rules as in earlier formulations of GPSG. Each node in a syntactic tree is paired with a translation in an 'interpreted tree' by the Semantic Interpretation Schema developed in their Chapter 10. In this schema, the semantics of [+PAST] is integrated as part of the complex process of assigning a translation to the node unmarked for [PAST] which immediately dominates VP[+PAST], say S. Thus the syntactic subtree dominated by VP[+PAST] is assigned an untensed translation in the interpreted tree: it corresponds to grow tomatoes in 10. And the stage of semantic analysis which corresponds to the tensed grew tomatoes is assigned to no syntactic node in this interpreted tree; it is merely a step in the composition of the translations of the constituents of S (GKPS chapter 10, especially pp225-6).

Now, Sag and Hankamer 1984 argue that what is relevant to instances of ellipsis which, like Post-Auxiliary Ellipsis, require a linguistic antecedent is a notion of identity at a level of Logical Form which is 'highly determined by surface syntactic structure' (p329). In particular, syntactic VP corresponds to a unit in it. A natural suggestion within GPSG is that a necessary (but not sufficient) condition on retrieval in Post-Auxiliary Ellipsis is as follows:

(i) What is retrieved corresponds to a semantic expression attached to a node in an interpreted tree of the preceding discourse (where 'corresponds to' covers the relaxations of simple identity developed in Sag 1977, Sag and Hankamer 1984).

Given this, the semantics of the untensed grow tomatoes will be straightforwardly retrievable from the VP grew tomatoes. Consider now those other morphosyntactic features which are semantically interpreted. An obvious candidate is the progressive participle: [VFORM PRP] (see Warner 1985 for relevant arguments). Another likely possibility is the past participle: [VFORM PSP]. The fact that the interpretation of semantical features on VP takes place after composition of the semantics of the constituents of VP has two

consequences. It means that it is only the semantics of the simple VP (grow tomatoes) which is retrievable from the participles (growing tomatoes, grown tomatoes) as from the tense-marked form. It also means that it is the semantics of the simple VP which is to be supplied in ellipsis, for the semantics of the appropriate morphosyntactic category will be supplied from the feature marking on the complement XP[+NULL]. Thus we correctly predict that examples like the following (cited from Pullum and Wilson 1977: 766(47)) are all grammatical.[4]

(11)a. I haven't done it yet but I will (sc. do it).

b. Harry will probably tell Sarah - in fact he probably already has (sc. told Sarah).

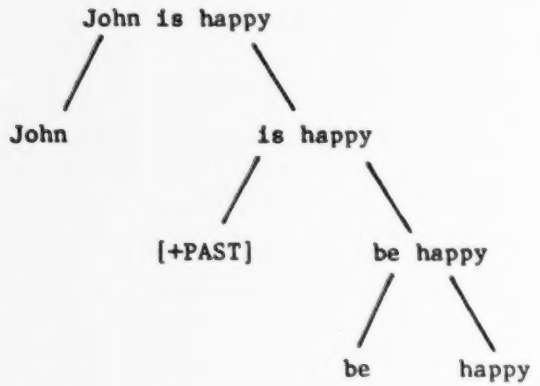
c. Max is selling hot dogs for a living, and soon all of us will have to (sc. sell hot dogs for a living).

d. I'm hoping that not all of my gerbils will die, but the weak ones already are (sc. dying).

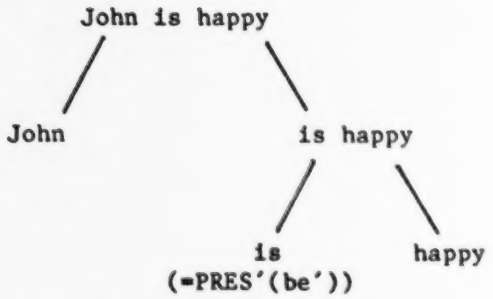
Moreover, the semantic appropriacy of what is retrieved to the site of ellipsis is automatically guaranteed for nonauxiliary verbs by Condition (i) and the operation of the Semantic Interpretation Schema, and there is no need to make a special statement to ensure this. Thus this points towards a simple and elegant account of conditions on Post-Auxiliary Ellipsis.[5] Notice, however, that a weaker version of Condition (i), requiring what is retrieved merely to be an expression of a preceding analysis tree, is sufficient for the discussion of this paper, whose points will stand if it is ultimately preferred to the stronger condition given above.

Given this, my proposal for be is very simple. I suggest firstly that we need to state a semantics for the present tense so that we have an operator PRES' beside PAST' as assumed, for example, by Dowty 1982, Cooper 1985. It will correspond to the syntactic feature-value pair [-PAST]. Secondly, I suggest that the am-forms are not interpreted as tensed forms of be with an analysis tree 12 parallel to 10 but appear in the lexicon with tense as part of their meaning. (Indeed if nonfinite be is to be analysed as an identity function the meaning of the am-forms will simply be that of tense.) The appropriate analysis tree is given in 13.

(12)



(13)



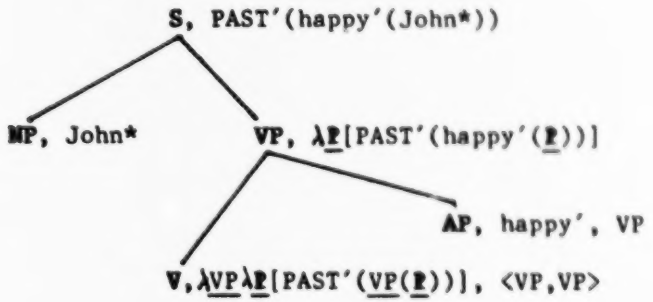
On the assumption that nonfinite be is an identity function the lexicon will supply the semantic statements of 14, and the am-forms will be entered without specification for the syntactic feature [PAST].[6]

(14) am, is, are — $\lambda VP\lambda P[PRES'(VP(P))]$, <VP,VP>
was, were — $\lambda VP\lambda P[PAST'(VP(P))]$, <VP,VP>
be, been, being — $\lambda VP(VP)$, <VP,VP>

Here P is a variable over Den(NP), VP is a variable over Den(VP) as defined in GKPS Chapter 9.

A schematic interpreted tree (including some type information) is given in 15.

(15) John was happy.



In this tree the interpretation associated with the VP-node is tensed. Therefore under Condition (i) above it cannot supply the untensed expression required in Post-Auxiliary Ellipsis.

This leaves the problem of the semantics of the complement of be. Why cannot well-behaved' simply be retrieved from AP to supply the semantics of VP? This is impossible for predicative AP, AP[+PRD], not only in the structures considered here, but also more generally.

(16)a. What, Mary well-behaved! - Yes she was.

b. What, Mary well-behaved! - Well, she ought to *(be).

(17)a. John came early, well-behaved as ever - Yes, he always is.

b. John came early, well-behaved as ever - Yes, he feels he must *(be). [* = sc. be well-behaved]

The distinction between AP and VP here is not one of semantic type if AP[+PRD] has the type of VP as argued in GKPS: 192f. But there are two other possibilities. The first is that be is not an identity function, so that the semantics of well-behaved and be well-behaved is distinct, cf the analyses of be given in Montague 1973, Dowty, Wall and Peters 1981. The second is that a condition of syntactic identity should be added to that for retrieval given above:

(ii) What is retrieved belongs to a syntactic category which is not distinct from that required at the site of ellipsis.

This condition is suggested in Warner 1985 to cope with the ungrammaticality of ellipsis involving different morphosyntactic forms of be as in 5a,b above (since the categories involved are interpreted as syntactically distinct for auxiliaries though not for other verbs). It is also required to prevent retrieval of the translation of be + predicate (VP[+AUX]) after do, whose complement is VP[-AUX]. So there is some more general support for such a condition. Either of these possibilities would suffice to rule out the inappropriate retrieval of AP well-behaved' to supply VP in 2, 16 and 17.

Finally, what about examples like 8 (repeated here for convenience) which retrieve nonfinite have from antecedent tensed have?

(8)a. ?*John has probably kissed his grandmother good night, but Paul won't yet (sc. have kissed his grandmother good night).

b. ?*Have you seen one yet? You should by now if they're really there (sc. have seen one).

As pointed out above, these differ from the parallel cases with antecedent am-forms in being sometimes relatively acceptable. But if the translation of untensed have-phrases may sometimes be retrieved, this suggests that the semantic contribution of [+PAST] to the perfect may be integrated at VP-level as with other verbs. Then, if we assume that the type of inverted have is <VP,VP>, PTQ-style analysis trees for 8a and b will contain an expression corresponding to untensed have-phrases. In 8a it will be paired with a syntactically distinct node from that required at the site of ellipsis, in 8b with no node in the syntactic tree. The fact that retrieval is not always totally unacceptable may show the relevance of the weaker version of Condition (i) referred to above. Given that 8a, b are to be analysed as ungrammatical, we require the stronger version and Condition (ii). There is some variation in judgements, and it is possible that the weaker condition is general and that there is interpersonal variation in the application of the stronger conditions. But the general point is rather that the account of the am-forms developed here does not necessarily carry over to have any more than to the be-forms, so that it is consistent with the differences observed between these categories.

Thus within this framework it is possible to specify the meaning of the am-forms in such a way as to account for their idiosyncratic behaviour as antecedents to ellipsis. I will now try to provide some morphological and historical justification for such an analysis of the am-forms.

3.2 A Morphological Distinction

Considered as a verbal paradigm the am-forms (am, are, is, was, were) show two peculiarities. Firstly, they show no regular verbal inflection. It seems clearly better to regard the form is as invariable than as containing third singular -s. Secondly, the forms are not simply suppletive to other verbal paradigms, since they carry a different and fuller set of distinctions. It might make better sense to view them as falling outside the morphological framework of verbal distinctions, rather than suppletive variants within such a framework.

This suggestion is supported by the status of modals, for they also lack regular verbal morphology. They do not carry the third singular present -s. Their 'past tense' forms only refer to the past in a minority of uses, and they are no longer formed by rule from the corresponding 'presents'. It is striking that modal need lacks the regular nonmodal preterite needed in Standard English, that many speakers also lack the modal preterite dared, and that

uninflected dare, daren't and needn't are pressed into service as past tenses (Huddleston 1980, Quirk et al 1985: 138-9, Visser 1963-73 III First half: sections 1348, 1363). Thus with the possible exception of the marginal used and the restricted dared (a form supported by dare's tendency to blur the modal/nonmodal contrast) modals might reasonably be analysed as a distinct class of verbs at the level of morphology: one which entirely lacks verb morphology, though able to carry a contrast in tense.

But now the am-forms may clearly be assigned to this morphological class. In a historical perspective this is unsurprising, for the am-forms have long shared morphological characteristics with modals or the broader group of preterite-present verbs which contained the ancestors of most of our present-day modals. Old English þu eart 'thou art', hie sindon, hie earon 'they are' showed preterite-present formations (cf þu scealt 'thou shalt', hie sculon 'they shall'). Then the sixteenth century saw the establishment of the alternations thou art~they are, thou wert~they were in Standard English, replacing earlier thou art~they be(n), thou were~they were. This again parallels (and may be partly modelled on) the interrelationship thou shalt~they shall found in modals (see OED Be, v.)

For these reasons it seems to me rather plausible to take the am-forms as belonging with modals to a class of verbs which lacks verb morphology (though not auxiliary morphology if -n't is inflectional, cf Zwicky and Pullum 1983). The be-forms (be, been, being) and forms of the auxiliaries have and do do not however belong to this class. Their inflected forms are open to analysis as both morphologically and semantically transparent, if partly irregular.

This analysis does not of course bear directly on the way tense is represented in the am-forms without further assumptions. But if am-forms are morphologically distinct from the major class of verbs, it is clearly reasonable to suggest that they may lack a further verbal characteristic.

3.3 History

3.3.1 Until the early nineteenth century there occur examples in which an antecedent am-form permits retrieval of a nonfinite VP, as in 6b above, repeated here for the reader's convenience.

(6)b. I wish our opinions were the same. But in time they will [sc. be the same - ARW]. Jane Austen, Emma. 1816. ed. by R.W. Chapman, Oxford: OUP 1923. p471 (cited from Phillipps 1970: 142).

If the account given above is appropriate, then the am-forms

presumably carried a feature [PAST] interpreted at VP-level like other verbs until this period. Then, or perhaps at earlier periods for some speakers or styles, they were reanalysed becoming the modern holistic combinations with tense.

This development is open to a reasonable interpretation within the present framework. Two changes are particularly relevant: the increasingly distinct constructional properties of auxiliaries and nonauxiliary verbs as do takes on its modern distribution, and the loss of inflections in the am-forms (and in modals) dependent on the loss of thou.

(i) Loss of shared constructions. In Early Modern English auxiliary do and nonauxiliary verbs may both appear in inversion or before not where auxiliary do is now obligatory.

(18)a. From whence came you, and whither go you?

b. What answer did you make the villain?

(19)a. I flatter not myself with any manner of hopes.

b. He is the only man in the three Nations who does not know it.

(Examples from Dryden's prose, from Söderlind 1951-8.)

With individual lexical items full verb inversion can occur throughout the eighteenth century. But the failure of 'do-support' is infrequent in some texts even from the first half of the century, and seems largely to be restricted to a handful of recurrent items, such as mean, say, and think. Loss of postverbal not is rather later. Examples are not uncommon throughout the eighteenth century, though again, from the second half of the century it seems to be a few recurrent items which are mainly involved.

The loss of these constructions with full verbs clearly removes important properties shared by auxiliary and nonauxiliary verbs. A grammar of English written in 1700 would have to identify tensed verbs as the locus of negation and inversion. By 1850 auxiliaries alone were involved. This loss of shared properties must clearly increase the possibility that the am-forms would be reanalysed as lacking a further verbal characteristic. But the fact that these forms are unlike the be-forms or have in behaviour implies that something further is involved. I take this further crucial factor to be (ii).

(ii) Inflectional loss dependent on the loss of thou. Before the loss of thou, the am-forms retained inflection, cf the form wast and the interrelationship (shared with shall and will): art~are, wert~were, shalt~shall, wilt~will.

Despite its narrow scope the rule here is simply stated: auxiliary plural stems ending in a liquid add -t for the thou-form (remember that postvocalic [r] is only lost in Standard English from the late eighteenth century). Thus before the loss of thou the am-forms retained the major verbal characteristic of agreement inflection, and were presumably analysed as a separate, largely suppletive paradigm. But this motivation for assignment to the same morphological class as nonauxiliary verbs disappears with the loss of thou. And this loss in standard colloquial English, used between intimates, to children, to servants and inferiors, or to show contempt, seems to belong to the second half of the eighteenth century. It is common in appropriate circumstances in Richardson's Pamela of 1740-1, and it appears in plays later in the century, cf Bock 1938. But nineteenth century occurrences are very infrequent, and belong to dialect or the language of prayer or heightened discourse. Thus this loss occurs at a period appropriate for the required reanalysis of the am-forms.

Modals, moreover, undergo a parallel loss. They had carried the normal agreement inflection for thou in the preterite and some present forms, cf the examples of 20.

(20) may(e)st, might(e)st, would(e)st; speak(e)st, spok(e)st.

Loss of thou meant loss of agreement inflection, and the development of a morphological subclass to which the am-forms could also be assigned. Moreover the 'preterites' of modals already had a very high degree of independence from the 'present' forms, and the interrelationship had been morphologically irregular since the sixteenth century at the latest. Thus modals were open to interpretation as a group lacking all regular verbal morphology, and perhaps as a group with 'lexical' tense (though this could also have been an earlier development). Thus modals changed morphological status at this period, whatever the precise details, in a way that supported reanalysis of the am-forms.

This interpretation involves multiple causation. The widening word-class gap between auxiliaries and nonauxiliaries, and the factors which led to this developing opposition clearly underlie it. But it highlights the loss of processes of verbal inflection as providing the specific occasion for change. This seems appropriate both in terms of date since the changes seem to follow one another closely (though there are obvious uncertainties in such an assessment) and because it ties in with the distributional distinction between the am-forms and have or nontensed forms of be. I have discussed this so far in general, word-class terms, but it may be that we need to characterize a special relationship between the loss of inflection and the loss of the type of 2. Within a Government and Binding framework one might try to relate these properties directly.[7] But

there are other possible types of interconnection. It would surely be reasonable to suggest that the 'semantical' status of the tense feature here depends on transparency of tense-formation in the general case (not in the particular, because of suppletion). A principle like 21 would motivate the *am*-forms' loss of the semantical feature if loss of regular agreement inflection removed these forms from the morphological category of inflected verb.

(21) Tense features may be semantical in a category which has regular processes of tense formation.

Moreover, if the reader accepts, as suggested above, that today's *am*-forms do not carry inflection and are not suppletive to inflectional categories of the verb, then Greenberg's Universal 30, which refers to inflectional categories, is clearly highly suggestive:

(22) 'If the verb has categories of person-number or if it has categories of gender, it always has tense-mode categories' (Greenberg 1963: 93).

Perhaps, then, English maintained the analysis of [PAST] as a semantical feature with the *am*-forms only until these became distinguished by lack of agreement inflection. Thus it seems very probable that there is some more systematic interconnection involved here. But its nature requires further research.

3.3.2 There may be a further factor involved in the loss of the ellipsis type of 2. Although on the face of it the *am*-forms in Modern English have always made one more distinction than nonauxiliary verbs in the indicative paradigm, it is possible that we should interpret the loss of *thou* as leading to the hypercharacterization of this distinction. For the the first time the *am*-forms would have become hypercharacterized as a verbal paradigm, and hence less readily taken as suppletive to verbal inflections. Suppose that the person-distinctions of Present-day English involve the features of 23a and are as in b.

(23)a. [PTC] 'participant': [+PTC] = 1, 2; [-PTC] = 3.
[EGO]: [+EGO] = 1; [-EGO] = 2, 3.
[PL]: 'plural'.

b.
1st singular	[+PTC, +EGO, -PL]
2nd singular	[+PTC, -EGO, -PL]
3rd singular	[-PTC, -EGO, -PL]
1st plural	[+PTC, +EGO, +PL]
2nd plural	[+PTC, -EGO, +PL]
3rd plural	[-PTC, -EGO, +PL]

These features are straightforwardly related to those suggested by Sag, Gazdar, Wasow and Weisler 1985. The lexicon will then specify the following agreement categories

for the present tense of sing, where AGR is the agreement feature of GKPS which takes instantiations of NP as its values:

(24)			
	sing	[AGR NP[+PTC, -PL]]	1, 2 sing
	sings	[AGR NP[-PTC, -PL]]	3 sing
	sing	[AGR NP[+PL]]	1, 2, 3 plural

It is not necessary to specify forms more completely granted the lexical insertion convention of GKPS: 34 according to which the syntactic node dominating a lexical item may be more fully specified than that item. And it is not possible to remove the homonymy between the forms sing without an equivalent disjunction unless the theoretical apparatus is extended to include negative conditions on feature value pairs as part of a lexical entry. But the identity of these forms can be stated within the morphology by redundancy rule, or as the consequence of an 'elsewhere' condition. See Warner 1986 for some discussion of the feature system proposed here and of these further points.

The system for Early Modern English must represent in addition the distinction between thou and singular you. This encodes a distinction in the relationship between participants which is grammaticized only here. A rather natural way of representing this in GPSG is to introduce a feature PROFORM with two values {thou, you}.[8] The lexicon will then specify the agreement categories of 25, again leaving statements of identity to the morphological component.

(25)			
	sing	[AGR NP[+EGO, -PL]]	1 sing
	sing(e)st	[AGR NP[PROFORM thou]]	2 sing thou
	sing	[AGR NP[PROFORM you]]	2 sing you
	sings	[AGR NP[-PTC, -PL]]	3 sing
	sing	[AGR NP[+PL]]	1, 2, 3 plural

But given this, the loss of thou leads to a simplification of the agreement paradigm of English, from 25 to 24. This has an important consequence for be. The earlier verbal paradigm provides a category for each of the am-forms.

(26)		
	I am	was
	thou art	wast, wert
	you(sg) are	was, were
	he is	was
	they (etc) are	were

The later paradigm does not. The formal distinction between am, was and second singular are, were, has no place in it. Thus the am-forms can no longer be simply interpreted as suppletive members of a verbal paradigm.[9]

In this discussion I have made a series of assumptions about person and number distinctions and the representation of paradigms in the lexicon. They seem to me to be reasonable assumptions, but clearly I can do no more than suggest that the *am*-forms become hypercharacterized as a verbal paradigm when *thou* was lost and that this provided further motivation for their loss of verbal behaviour in ellipsis at this period.

4. Conclusion

I conclude that there is synchronic and diachronic justification for a GPSG analysis of the tensed forms of the English copula as distinct from nonauxiliary verbs in two respects: the semantics of their combination with tense is given lexically and they lack the morphology of verbal inflection. The first property underlies the idiosyncratic failure of these forms to occur as antecedents to Post-Auxiliary Ellipsis. This arises with their loss of verbal properties, in particular with the development of a class containing modals and *am*-forms which lacks verbal inflection. Particular advantages of the general analysis given here are that it is consistent with the distinct behaviour of auxiliary *have* and that it deals naturally with the loss of the ellipsis construction with tensed antecedent which is found in earlier English.

It would be possible to retreat to a vaguer and less satisfying account in which a simple (though minor) difference of category was taken to underlie the distinction discussed here. But the more explicit account is clearly preferable.

FOOTNOTES

* Thanks to Gerald Gazdar, Steve Harlow and David Reibel for their comments. But any mistakes are my own.

1 The type is possible with *will* in the second clause in the English of speakers bilingual in English and Welsh. But this is readily interpreted as a calque on Welsh structures. See Warner 1985 note 31.

2 Here [+NULL] will prevent further expansion, and the slash category will not percolate up the tree since its presence in the rule is stipulated by metarule. Note that Napoli 1985 analyses the auxiliary in Post-Auxiliary Ellipsis constructions as a propredicate. But her arguments for this position are mainly directed against a deletion analysis and are not convincing against the type of account offered here.

3 Oehrle, in Steele et al 1981: 259 n 18, apparently suggests that untensed representations may not be retrieved from am-form + predicate, so that retrieval fails. But he offers neither analysis nor justification.

4 See Warner 1985: 58f for discussion of variability in such data.

5 A syntactic condition and a Feature Cooccurrence Restriction (or restrictions) will also be required, see below. Condition (i) deals appropriately with these examples:
(a) *John was laughing, so Mary's being [sc. laughing] does not surprise me. (ok: so the suggestion that Mary was [sc. laughing]...)
(b) *Men are to dress formally, so I suppose women must be [sc. to dress formally] as well.
In dialects where being permits ellipsis, the translation of progressive laughing may not be retrieved in (a), only that of nonprogressive laugh. But no progressive interpretation is available after being which is not subcategorized for such complements (see Warner 1985). We may, however, need to ensure adequate specification of the [+NULL] complement by Feature Coccurrence Restriction to prevent the retrieval of simple laugh. In (b) the feature corresponding to to must be semantical on a node marked [+PRD]. Hence the translation of to arrive is not retrievable, only that of arrive. But this cannot be supplied in context. Notice, however, that given the account of the am-forms developed below, Condition (i) does not account for the failure of (c) where a tensed VP is retrieved:
(c) *If John was miserable, then Mary must [sc. have been miserable].
I suggest, however, that the answer here lies in a more sophisticated semantics which distinguishes finite and nonfinite forms. In particular, the model theoretic type of finite and nonfinite phrases should perhaps be distinguished, cf Schmerling's 1983 treatment of clause types, or Bach's 1980 'minimal revision' of PTQ.

6 We will, however, need to prevent the occurrence of am-forms under V and VP marked for [PAST], since lexical items may be inserted under more fully specified nodes (GKPS: 34). Avoiding the negative lexical condition ~[PAST], this can be done by the following restriction on feature cooccurrence:

FCR SUBCAT[9] ⊃ ~[PAST] (where V[9] is be).

But I suspect that lacking a value for [PAST] is a more general auxiliary property and that a more general

default would be appropriate.

7 One might seek to align the final loss of agreement inflection in the *am*-forms with loss of coindexing between these forms in INFL and their trace in VP, assuming that VP represents a retrievable unit of Logical Form. This would give a more direct relationship between loss of inflection and loss of ellipsis than the present account. The assumptions required would however involve a radical revision of the account in Roberts 1985, and it is not clear to me that they can be sustained.

8 I assume that PROFORM is a freely instantiated HEAD feature subject to the following FCR:

FCR [PROFORM] ⊃ [+PTC, -EGO, -PL]

This gives correct results for coordination and the occurrence of reflexives. Alternatively a feature based on the semantic opposition between *thou* and *you* might be adopted. Other pronouns would simply neutralize the distinction. But the solution above is better paralleled within GPSG.

9 I do not want to deny the general possibility of hypercharacterized paradigms, cf *aller*, *avoir*, *être* in spoken French, which distinguish between 1 sing and 2, 3 sing in the present indicative unlike other verbs.

REFERENCES

Akmajian, A., S. Steele and T. Wasow. 1979. The category AUX in universal grammar. *Linguistic Inquiry* 10.1-64.

Bach, Emmon. 1980. Tenses and aspects as functions on verb-phrases. *Time, Tense and Quantifiers: Proceedings of the Stuttgart Conference on the Logic of Tense and Quantification*, ed. by Christian Rohrer. Tübingen: Niemeyer. 19-37.

Bock, M. 1938. *Der stilistische Gebrauch des englischen Personalpronomens der 2. Person im volkstümlichen Dialog der älteren englischen Komödie*. Inaugural Dissertation. Innsbruck.

Carlson, Greg N. 1983. Marking constituents. *Linguistic categories: auxiliaries and related puzzles*, ed. by Frank Heny and Barry Richards. Dordrecht: Reidel. Vol.1.69-98.

Cooper, R. 1985. *Aspectual classes in Situation Semantics*. Report No. CSLI-84-14C. Stanford: Center for the Study of Language and Information, Stanford University.

Dowty, David R. 1982. Tenses, time adverbs, and compositional semantic theory. Linguistics and Philosophy 5.23-55.

Dowty, David R., Robert E. Wall and Stanley Peters. 1981. Introduction to Montague Semantics. Dordrecht: Reidel.

Gazdar, Gerald; Ewan Klein; Geoffrey K. Pullum; and Ivan A. Sag. 1985. Generalized Phrase Structure Grammar. Oxford: Blackwell and Cambridge, Mass: Harvard University Press.

Gazdar, Gerald; Geoffrey K. Pullum; and Ivan A. Sag. 1982. Auxiliaries and related phenomena in a restrictive theory of grammar. Language 58.591-638.

Greenberg, Joseph H. 1963. Some universals of grammar with particular reference to the order of meaningful elements. Universals of Language, ed. by Joseph H. Greenberg. Cambridge, Mass: MIT Press. 73-113.

Huddleston, R. 1980. Criteria for auxiliaries and modals. Studies in English Linguistics for Randolf Quirk, ed. by S. Greenbaum, G. Leech and J. Svartvik. London: Longman. 65-78.

Janssen, Theo M.V. 1983. Scope ambiguities of tense, aspect and negation. Linguistic categories: auxiliaries and related puzzles, ed. by Frank Heny and Barry Richards. Dordrecht: Reidel. Vol.2. 55-99.

Leonard, S.A. 1962. The doctrine of correctness in English usage 1700-1800. New York: Russell and Russell. (reprint of 1929 edition)

Levin, N.S. 1980. Main-verb ellipsis in spoken English. Ohio State Working Papers in Linguistics 24.65-165.

Levin, N.S. 1981. Conditions on ellipsis of infinitival be. Variation omnibus, ed. by David Sankoff and Henrietta Cedergren. Carbondale, USA and Edmonton, Canada: Linguistic Research Inc. 393-401.

Montague, R. 1973. The proper treatment of quantification in ordinary English. Approaches to natural language, ed. by K.J.J. Hintikka, J. Moravcsik, and P. Suppes. Synthese Library vol.49. Reidel: Dordrecht. 221-42.

Napoli, Donna Jo. 1985. Verb phrase deletion in English: a base-generated analysis. Journal of Linguistics 21.281-319.

OED = The Oxford English Dictionary, ed. by J.A.H. Murray, H. Bradley, W.A. Craigie and C.T. Onions. Oxford: Clarendon Press. 1933.

Phillipps, K.C. 1970. Jane Austen's English. London: Andre Deutsch.

Pullum, Geoffrey K. and Deirdre Wilson. 1977. Autonomous syntax and the analysis of auxiliaries. Language 53.741-88.

Quirk, Randolph; Sidney Greenbaum; Geoffrey Leech; and Jan Svartvik. 1985. A comprehensive grammar of the English Language. London and New York: Longman.

Roberts, Ian G. 1985. Agreement parameters and the development of English modal auxiliaries. Natural Language and Linguistic Theory 3.21-58.

Sag, Ivan A. 1977. Deletion and logical form. (MIT diss, 1976). Bloomington: IULC (reprinted New York: Garland 1980).

Sag, Ivan A; Gerald Gazdar; Thomas Wasow; and Steven Weisler. 1985. Coordination and how to distinguish categories. Natural Language and Linguistic Theory 3.117-71.

Sag, Ivan A. and Jorge Hankamer. 1984. Towards a theory of anaphoric processing. Linguistics and Philosophy 7.325-45.

Schmerling, Susan F. 1983. A new theory of English auxiliaries. Linguistic categories: auxiliaries and related puzzles, ed. by Frank Heny and Barry Richards. Dordrecht: Reidel. Vol.2.1-53.

Söderlind, J. 1951, 1958. Verb syntax in John Dryden's prose. 2 vols. Upsala Essays and Studies on English Language and Literature, vols.10, 19. Upsala: Lundequistska.

Steele, Susan, et al. 1981. An Encyclopedia of AUX: A Study in Cross-Linguistic Equivalence. Linguistic Inquiry Monograph 5. Cambridge, Mass: MIT Press.

Visser, F.Th. 1963-73. An historical syntax of the English language. 3 parts. Leiden: E.J. Brill.

Warner, Anthony R. 1985. The structuring of English auxiliaries: a phrase structure grammar. Bloomington: IULC.

Warner, Anthony R. 1986. Coordination, person and number in Generalized Phrase Structure Grammar. Unpublished.

Zwicky, Arnold M. and Geoffrey K. Pullum. 1983. Cliticization vs. inflection: English n't. Language 59.502-13.